

FIG. 1

PageTableSetup:

Physical Address \leftarrow a

Total ID mapped region size \leftarrow 4MB

X \leftarrow start address of ID Mapped space

For i \leftarrow 0 to i \leftarrow number of pages // size determines total number of identity mapped pages reserved //

 If Physical Address \geq X and Physical Address \leq X + size then
 Virtual Address = X // Special case to handle identity mapped space //

 Else

 Virtual Address = f(X) // assuming f(x) is the mapping function used under normal circumstances //

Next i

// regular page table setup continues //

ImMalloc(size):

Outcome \leftarrow malloc (X, X + Total ID mapped region size, allocatesize)

If Outcome = Failure then

 Try to grow ID Mapped space depending upon maximum allowable limit

 If not able to grow the space

 Outcome \leftarrow NULL

 else

 Outcome \leftarrow malloc(X, X + New total ID mapped region size, allocatesize)

Return (Outcome)

FIG. 2

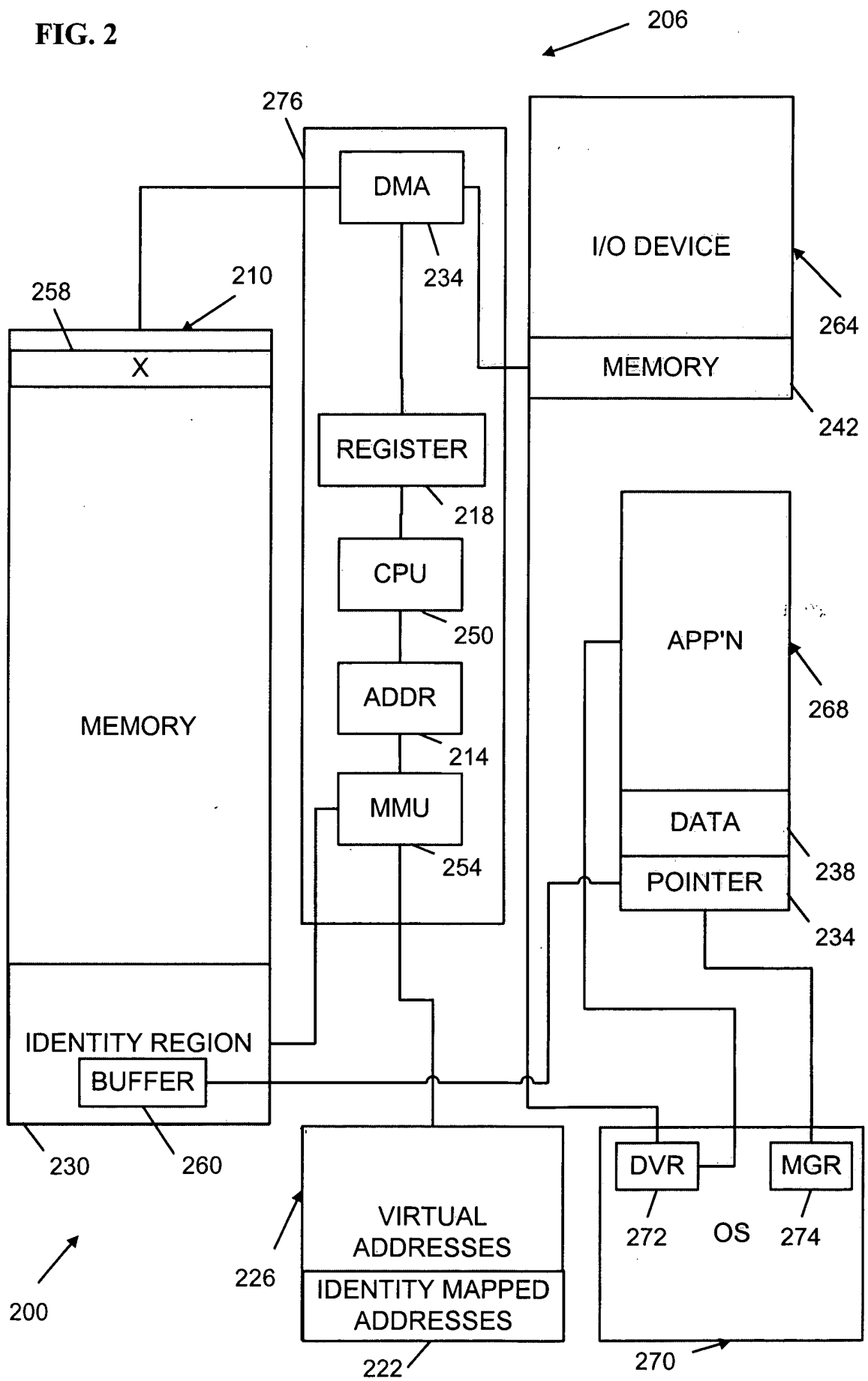


FIG. 3

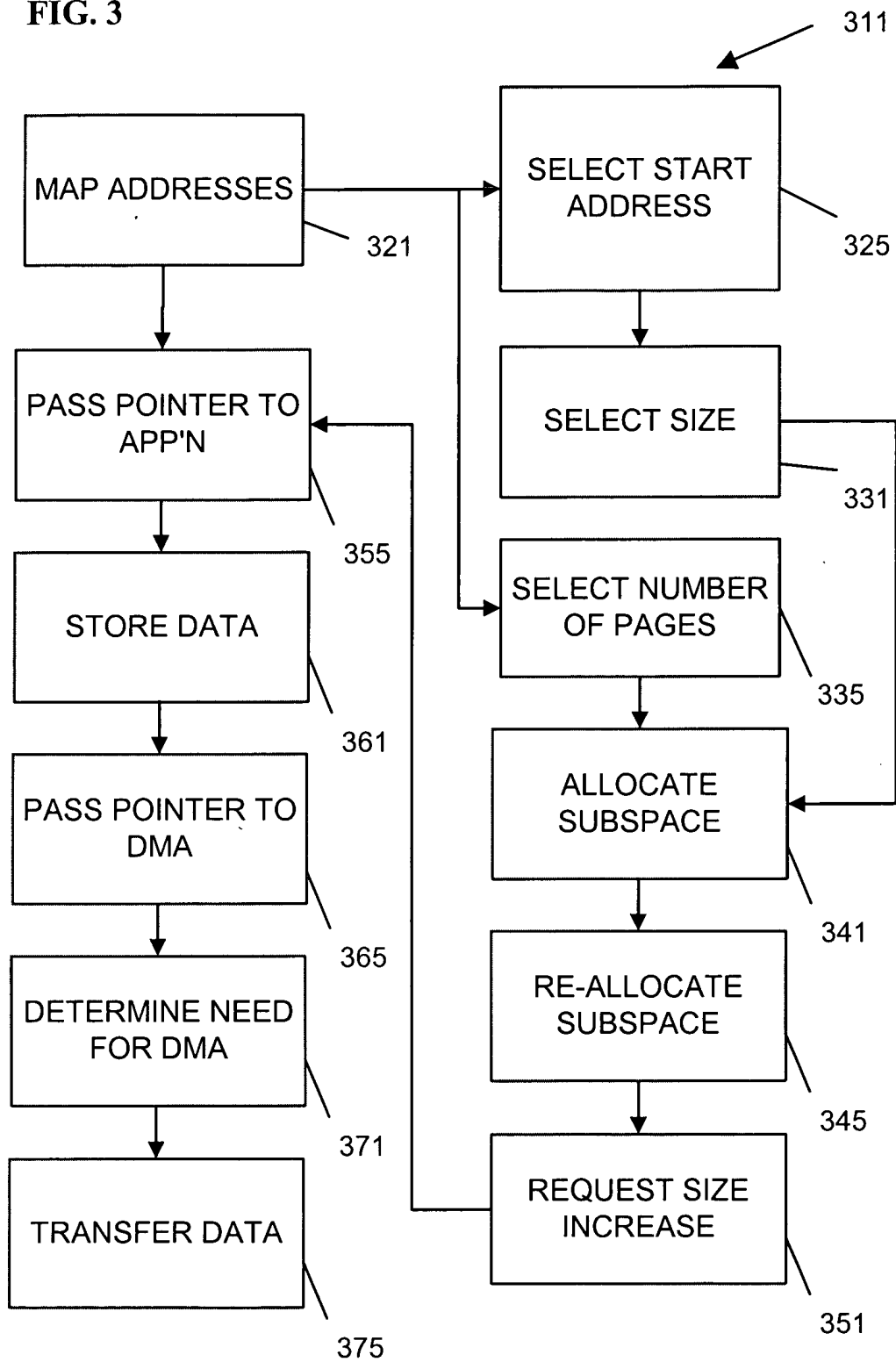


FIG. 4

